From theory to practice in multilingualism: what theoretical research implies for third language learning

To appear in Angelovska, T. and Hahn, A. (Eds.). *L3 Syntactic Transfer: Models, New Developments and Implications.* Amsterdam/Philadelphia: John Benjamins.

From theory to practice in multilingualism:

What theoretical research implies for third language learning

Jorge González Alonso
UiT The Arctic University of Norway

Jason Rothman
University of Reading, UK
UiT The Arctic University of Norway

Abstract

This paper aims to show how insights from formal linguistic theory and empirical acquisition work can inform teaching practice in the multilingual classroom. Being native speakers of the same language and learning the same target language does not make learners necessarily comparable. Potential differences will arise depending on their language history, particularly in the divide between true L2 and L3 learners. We show how one can use the predictions of the L3 initial stages models to predict potential areas of difficulty specifically for multilingual learners. With this knowledge, we argue, it is possible to create interventions that help learners overcome potential initial difficulties that may arise from the specific combination of their native and non-native languages. We illustrate our line of argumentation by extending insights from published work comparing L2 and L3 acquisition, and provide an example of one such intervention that could be used to induce grammatical change (predicted) for erroneous initially transferred representations made by L3 learners.

General introduction

Particularly within formal approaches to language acquisition, third language acquisition (L3A) has enjoyed increased attention in the last 10 to 15 years (e.g., García Mayo & Rothman, 2012; Rothman, Cabrelli Amaro, & De Bot, 2013; Rothman, Iverson, & Judy, 2011). The 2000s saw a significant increase in the number of studies advocating the need for distinguishing between multilingual and bilingual individuals (e.g., De Angelis & Dewaele, 2011; De Angelis, 2007; Flynn, Foley, & Vinnitskaya, 2004; Leung, 2001). Until that point, the two populations were often confounded into one—intentionally or by oversight—under the umbrella of (adult) second language acquisition (L2A).

It is important to clarify that encouraging the L2A/L3A distinction does not imply assuming a fundamental difference exists between the two—for acquisition or processing (see, e.g., De Bot & Jaensch, 2015; Rothman, 2015)—but rather that there are reasons, relevant to both theory and practice, for them to be considered separately. It is now generally agreed that the study of L3A can contribute to answering perennial questions in linguistic theory and language acquisition (see Rothman, Iverson, & Judy, 2011, for a summary of arguments). While this is already a powerful reason to engage in L3A research, this chapter will focus on a separate, though related, advantage of discerning multilinguals within adult language learner populations, namely, that it provides us with tools to understand and even predict areas of difficulty for language learners, depending on their linguistic background and the combination of languages involved.

Virtually all approaches to non-native language acquisition have, to some extent, considered the influence of previous linguistic knowledge over successive learning, referred to sometimes interchangeably as transfer or cross-linguistic influence (CLI). Those that make a distinction between transfer and CLI, as we do, envision only the former to be at the level of mental representations within the developing interlanguage grammar. Under such a distinction, transfer then minimally refers to initial hypotheses about mental grammatical representations for the target grammar copied from a source of specific previous linguistic experience. For example, transfer can consist of the representations of the L1 in the (initial) interlanguage grammar(s) of the L2 (Schwartz & Sprouse, 1996). By contrast, CLI is, as the name suggests, influence from the other grammar, inclusive of processing-related pressure—e.g., strategies preferred for the processing of ambiguous sentences from the L1, for example, the strategies that give rise to anaphora resolution that can differ cross-linguistically—that does not reflect or interfere with linguistic competence per se. For some researchers who make this distinction, CLI unambiguously exists and is in fact a necessary construct to explain observable facts about non-native performance, but is not transfer (see, e.g., Epstein, Flynn, & Martohardjono, 1996; Klein & Perdue, 1997; Platzack, 1996). Both representational transfer and CLI do affect performance. What is at stake and addressed by making

the transfer/CLI distinction is assigning the level to which particular performance variables obtain: a by-product of representational differences (transfer) or not (CLI). Ideally, transfer and CLI can be teased apart via experimentation, so the distinction is not a vacuous or unfalsifiable one. Nonetheless, it remains an empirical question for which evidence already exists in the L3 literature (see González Alonso & Rothman, 2016; Rothman, Cabrelli Amaro & de Bot, 2013 for discussion).

In L2A, beyond the debate as to whether or not transfer obtains, to the extent that it does there is no question what the source must be, since the learner only knows one other language—the L1. Adult successive multilingualism, by definition, presents a much more complex situation, which has been summarised (see, e.g., Falk & Bardel, 2010; Rothman & Halloran, 2013) in the following four logical possibilities: (i) there is no transfer; (ii) the L1 is the default source of transfer; (iii) the L2 is the default source of transfer; (iv) either the L1 or the L2 may, in principle, be the source of transfer. Within the last 10 years, the field has developed at least three proposals that attempt to model morphosyntactic transfer specifically at the initial stages of L3[1, 2]. One of them, the L2 Status Factor (L2SF; e.g., Bardel & Falk, 2007; Falk & Bardel, 2011), advocates the logical possibility in (iii) above. The other two proposals, known as the Cumulative Enhancement Model (CEM; Flynn et al., 2004) and the Typological Primacy Model (TPM; e.g., Rothman, 2011, 2015), consider that any previously acquired languages can be the source of transfer—i.e., possibility (iv) above—but they differ by which variables they maintain critically determine the selection of such a source, as well as what amount of the selected language is transferred at the initial stages (see Rothman & Halloran, 2013; Rothman, Iverson & Judy, 2011 for discussion).

In the following sections, we review the basic tenets of these models in more detail, and we argue that the TPM in particular can provide valuable insights to understand individual differences within the non-native language classroom, as shown via a discussion of the learnability implications stemming from the initial stages L3 data presented in Cabrelli Amaro and Rothman (2010). Ultimately, by combining the implied developmental predictions of the model with relevant knowledge from linguistic theory we can pinpoint (some) issues of L3 learnability, specific to any given language combination, that apply to more advanced learners (González Alonso &

[1] The initial stages refer to the beginning of the L3 acquisition process, that is, the initial developing L3 interlanguage grammar.

[2] Recently, developmental models for L3 acquisition have been proposed that, as it relates to CLI, attempt to model the effect of previous linguistic knowledge beyond the initial stages, for example the Linguistic Proximity Model (Westergaard, Mitrofanova, Mykhaylyk & Rodina, 2016) and the Scalpel Model (Slabakova, 2016b). Rightly, in our view, they point out the dynamic nature of L3 development and the multifarious factors that need to be considered when looking at L3 transitory grammatical development. These models are not a priori incompatible with the initial stages models under review here, and our exclusion of them in this discussion is predicated only on the fact that they are not initial stages model per se.

Rothman, 2016). Since we will limit our discussion to the tacit implications for development that stem from theories that are either exclusively initial stages models (the TPM) or make strong predictions for transfer at the earliest levels of L3 interlanguage development, we will not discuss recent transitional models in L3 that provide greater contributions to the potential dynamics of higher level development in L3 acquisition proper, for example, Slabakova's Scalpel Model (Slabakova, 2016b).

The aim of this chapter is twofold. First, we stress the importance and usefulness of bringing insights from formal linguistic theory and empirical acquisition work into teaching practice, specifically for multilingualism, a point that has already been made for L2A (e.g., Bruhn de Garavito, 2013; Long & Rothman, 2013; Slabakova, 2016a; VanPatten, 2010; Whong, Gil, & Marsden, 2013, 2014). Second, we focus on the implications for teaching and learning that derive from the predictions and available data contained in L3A theory, particularly with regard to the phases of transition from initial stages through L3 development.

Background

The extent to which previous linguistic knowledge plays a significant role and, if so, what determines the transfer source in a multilingual context, has been a contentious topic in L3A research from early on. To our knowledge, no studies have taken the position that transfer does not obtain at the initial stages of L3A, although this position can be logically derived from extending L2A hypotheses that reject a role of transfer (e.g., Epstein et al., 1996; Platzack, 1996). Following that line of reasoning, no transfer would obtain in L3/Ln acquisition, either because all acquisition irrespective of age is directly and solely guided by the same universal mechanisms that steer L1 acquisition (e.g., Universal Grammar [UG] and/or domain-general mechanisms), or simply because transfer as a construct is wrong. Under either scenario, there would be no significant contribution of previously acquired languages, at least and perhaps specifically pertaining to mental representations for non-native interlanguage grammars. That is, assuming a distinction between CLI and true transfer, theories that reject transfer (e.g., Epstein et al., 1996) do not necessarily deny the possibility that at a superficial level previous linguistic knowledge—i.e., true CLI—shapes at least real-time non-native performance. Similarly to the case of L2A, however (see, e.g., Schwartz, 1996), the L3 literature contains abundant examples of early performance that does not match the natural development for a given grammatical property by a learner who is linguistically novice, that is, diverges from the initial patterns of child L1 acquisition, but rather coincides instead with the language-specific L1 or L2 configuration for that domain. Experimental L3 studies specifically designed to disentangle performance variables (CLI) from representations at the level of interlanguage competence overwhelmingly indicate that true transfer obtains (e.g., Bardel & Falk, 2007; Foote, 2009; Giancaspro, Halloran, & Iverson,

2015; Iverson, 2010; Montrul, Dias, & Santos, 2011; Rothman & Cabrelli Amaro, 2010; Rothman, 2010). In the face of this kind of evidence, it seems difficult to deny the involvement of transfer in second, third or subsequent language acquisition.

From the above discussion, it follows that a learner's linguistic background matters, much more so in the case of L3 learners (L3ers), who start the acquisition process with a larger amount of linguistic experience and mental representations to draw from. It is reasonable to ask whether, in addition to the nature of previously acquired languages, their order of acquisition also plays a relevant role. This concern, inexistent in L2A—because the learner only has experience with one other language—has motivated the majority of the work conducted in formal linguistic approaches to L3 morphosyntax within the past decade. The question has been framed in terms of which language, if any, constitutes the default source of transfer at the initial stages of L3A. This approach, however, refers back to the question of whether it is fair to prioritize the order in which previous languages were acquired. Doing so complicates things when it is not clear what the order was, for example, when more than one non-native language has been acquired before one can be said to be fully acquired as well as issues pertaining to child bilinguals who acquire languages later in life (see Rothman, 2015 for discussion). In any case, proposals that favour a privileged status of the L1 or the L2, irrespective of its nature, contend that order of acquisition is crucial. Those that envision no default role for either the L1 or the L2, but rather maintain both as potential sources, consider that other variables have more weight in conditioning morphosyntactic transfer at the initial stages of L3A (Flynn et al., 2004; Rothman 2010, 2011, 2015; Slabakova, 2016b; Westergaard et al., 2016).

A specific model privileging the L1 as the default source of transfer has not been formally put forward in the L3 literature, although this scenario was taken—and contested—as a somewhat default assumption in certain seminal studies (e.g., Eisenstein, 1980; Singleton, 1987) and has sometimes been favoured in more recent work (e.g., Hermas, 2010; Lozano, 2002; Na Ranong & Leung, 2009). As a strong hypothesis, it makes predictions that are easily falsifiable. In that sense, the proposal is theoretically robust, if not vulnerable to any evidence of transfer that does not come from the L1, which abounds in the literature (e.g., Bardel & Falk, 2007; Falk & Bardel, 2011; Giancaspro et al., 2015; Montrul et al., 2011; Rothman, 2011; among many others).

A similar scenario applies to the position that the L2 is the default source of transfer in L3A. This view, shared with some early vocabulary acquisition studies (e.g., Williams & Hammarberg, 1998), has been most notably represented by the L2 Status Factor (e.g., Bardel & Falk, 2012, 2007; Falk & Bardel, 2011). It is proposed that the L2 and any subsequent languages are acquired, represented and physically stored similarly, which warrants a higher degree of mutual influence between them than there is with the L1. Recent work assigns crucial importance to the learning context

and the involvement of metalinguistic knowledge (MLK), conceding that transfer, or at least a high degree of CLI, could come from the L1 when there is a considerable amount of MLK associated to the mother tongue (Bardel & Sánchez, this volume; Falk, Lindqvist, & Bardel, 2015). It seems that the L2SF has evolved from its initial position of default L2 transfer to placing increasing importance on the variables that favour the selection of the L2 as a source of transfer in normal circumstances.

Two models have been particularly illustrative of positions advocating that it is the nature of previously acquired languages, rather than their order of acquisition, that eventually determines morphosyntactic transfer. The Typological Primacy Model (TPM; e.g., González Alonso & Rothman, 2016; Rothman, 2010, 2011, 2013, 2015) contends that structural proximity between the L3 and the L1/L2, as determined by the learner's internal parser, is the main factor driving the selection of a transfer source. The parser—essentially the mental processor for language—is, at the onset of exposure to an L3, charged with determining which previous linguistic system is the "best bet" for transfer as guided by a number of linguistic cues in an implicationally hierarchical order: lexicon, phonology/phonotactics, functional morphology and syntactic structure (see Rothman, Alemán Bañón, & González Alonso, 2015; Rothman, 2013, 2015 for how this process is envisaged to be constrained linguistically and cognitively). According to the TPM then, transfer is determined completely unconsciously via a comparison of limited, yet parsable L3 input to the L1 and L2, it is early—it takes place as soon as the parser has gathered enough information—and complete—the entire L1 or L2 system is transferred. The earliest versions of the TPM (Rothman, 2010, 2011) were not completely clear as to how the model understood the notion of typological proximity. Later versions are very clear: typology is a proxy for linguistic structural similarity. And so, predictions for all potential language triads are made on the basis of how the parser is likely to determine structural similarities across the target L3 and the two previously acquired systems at the macro-level of the entire grammar. Definitively, the TPM does not envision any interface between conscious perception of structural similarities and what the parser does, although perception and actual linguistic structural proximity can and often do coincide.

Similarly to the TPM, the Cumulative Enhancement Model (Berkes & Flynn, 2012; Flynn et al., 2004) sees language acquisition as an essentially non-redundant process, and so both the L1 and the L2 are regarded as potential sources of transfer. However, the CEM argues that transfer happens on a property-by-property basis, and that it is maximally facilitative: it only obtains in those cases in which it has the potential to enhance the acquisition of the target property—otherwise, previous linguistic knowledge remains neutral. This rejection of the possibility of non-facilitative transfer is perhaps the most controversial claim of the CEM, and one that has been challenged by a considerable body of evidence. Recent theoretical proposals that focus more on the developmental trajectory of L3A as opposed to modelling the

beginning stages alone, such as the Scalpel Model (Slabakova, 2016b) or the Linguistic Proximity Model (Westergaard et al., 2016) support the idea of transfer driven by structural similarity at a property-specific level, but suggest that other factors—e.g., processing complexity, negative evidence—interact with it to constrain L3 development. The claim then is that this interaction often leads to non-facilitative transfer.

Irrespective of which proposal the majority of empirical evidence ends up supporting most convincingly, it is undeniable that the models discussed above produce interesting insights and, most importantly, make predictions about the acquisition trajectories of different learners. The present chapter aims to highlight how valuable these insights can be to the practical experience of teaching or learning a language in a multilingual context. In the following section, we turn to a more articulated discussion of what these practical implications are, and how, in principle, they can help enhance our understanding of the multilingual language classroom. Being theorists, as opposed to practitioners, we will offer evidenced-based suggestions and implications.

Practical implications for the language classroom

Despite compelling reasons to the contrary, it is not often the case that insights from formal acquisition theories or empirical studies are taken to bear on classroom practice. Such a reality is, in our opinion, a missed opportunity. It is not surprising, however, that formal linguistic studies are not immediately transferred into classroom application, since it is not entirely clear how this can be effectively accomplished and to what end. To begin with, formal linguistic studies are primarily interested in the process of acquisition itself: describing and explaining the developmental trajectory and ultimate attainment of mental linguistic representation. Pedagogical interests are not necessarily the same, for example, the main concern relates to the processes of learning in the truest sense of the word. Assuming a distinction—potentially a lack of an interface—between acquisition and learning (see Krashen, 1982, among others), it might be the case that keeping the two separate is in fact desirable. While we agree that acquisition and learning are different constructs, we do not see why the study of one or the other should not exist to mutual benefit, that is, inform one another (e.g., Felix & Hahn 1985; Rothman 2008; Long and Rothman 2013; Whong, Gil & Marsden, 2014).

Although language classroom contexts are justified in being primarily concerned with the processes inherent to learning, this does not mean that acquisition in the truest sense of the word is not simultaneously occurring in tandem (Felix & Hahn, 1985). The question then becomes: what do we, as linguists who study multilingualism, know about how multilingual language acquisition takes place that could be useful for the language classroom context, and potentially vice versa? As described in the above section, much of the emphasis of formal linguistic approaches to L3A has been on

modelling the initial stages, specifically as it relates to predicting what transfers from either the L1 or L2 into the initial interlanguage representations for the L3. What we seem to know for sure, irrespective of which of the abovementioned models is correct, is that L3 learners behave differently than L2 learners as it relates to linguistic transfer. Obviously, L2 learners can only transfer from the L1. Since L3 learners can transfer from the L2 or potentially either the L1 or L2 depending on certain variables, this means that L2 and L3 learners, even when the L1 is held constant, can be very different.

Being able to predict the source of transfer in L3A and thus determine how L2 and L3 learners potentially have distinct starting points for the target L2/L3 is rather useful for teachers to know. Among other things, it might explain why some learners behave differently than others despite being in the same classrooms (exposure and training is constant) and ostensibly having comparable linguistic backgrounds (all natives of language X). If patterns emerge such that those in a foreign language classroom that have already acquired an L2 perform differently than those that are learning an L2 for the first time, this might be easily explained by influence from the L2 as opposed to the L1 that clearly novice L2 learners have no recourse to show. More practically, reliably predicting multilingual transfer can help the teacher know how and why pupils who have L2 experience will differ from those that do not. Specifically, it might pre-emptively inform the teacher to predict when L2 experience should matter and when not—i.e., when the L2 would be predicted to transfer and when not. Being able to make such predictions can enable pedagogues to create opportunities/interventions that deal with the bespoke needs of multilingual learnability.

In the remainder of this section, we attempt to build some bridges that address the aforementioned practicalities. We do this by fleshing out the differences between L2 and L3 learning scenarios where the L1 is held constant and the target L2/L3 are also held constant. These scenarios will be extensions based on research studies that reveal the dynamics of the L3 initial stages and how this distinguishes between unique starting points of learning and thus, as we will hypothesize, pertains to differences in developmental learnability trajectories for L2 and L3 acquisition.

Extensions from Rothman and Cabrelli Amaro (2010)

An instructive example showing how theory can inform practice is seen by extending the developmental predictions that stem from a comparison of the L2 and L3 groups in Rothman and Cabrelli Amaro (2010). First, it is prudent to describe the domain of grammar examined for testing the initial interlanguage grammar of the L2 and L3 participants. The grammatical domain was the status of subject pronouns, commonly referred to in the linguistic literature as null and overt subject expression.

In all of the world's languages a sentence minimally comprises a subject and a predicate, that is, a verb and the doer/experiencer of the verb.

Of course, a sentence can have much more than these minimal ingredients. For example, and depending on the verb—transitive/ditransitive—a direct and/or indirect object might be required. The fact that all sentences with finite verbs clearly have a subject to which the conjugated verb refers does not mean, however, that all languages must phonologically express subjects obligatorily. Whether or not the subject is pronounced (overt or null), it remains universally true—i.e., required—that all finite verbs have a semantically understood subject. According to linguistic theory, we can distinguish between at least two types of grammars in this respect: (a) null-subject grammars being those that can drop subjects and (b) non-null subject grammars being those that always require subjects to be pronounced. This requirement seems to be a universal of syntax, given that in languages of type (b) overt subject pronouns are required even when they have no semantic content, as in expletive contexts (e.g., *There are two books on the table*, where 'there' is devoid of referential meaning). The universal requirement of having a subject is met in null-subject grammars, type (a) languages, by assuming that the subject position is occupied by a phonologically null pronoun that bears the same features as the overt pronoun in languages of the (b) type[3]. Since the world's languages can be categorized as null (*prodrop*) or not, the non-native acquisition of null-subject syntax by native speakers of non-null subject languages, and vice versa, has been extensively examined in the L2A literature (see Rothman, 2009, for review). Given the descriptive insights from a wide body of L2 literature on this topic and the fact that *ab initio* L3 learners for which one previous grammar has a null-subject syntax and the other does not are not too hard to find, testing the L3 initial stages models using this domain of grammar was an inevitable, if not logical choice.

Rothman and Cabrelli Amaro's study examined null subject related properties in four groups of English native speakers, novice learners of Italian or French as an L2 or an L3. Recall that in null-subject languages, such as Spanish or Italian, the subject of a declarative sentence can be omitted or 'dropped' (e.g., Spanish *[ø] he cantado una canción*, or Italian *[ø] ho cantato una canzone*, '[I] have sung a song'). Non-null subject languages, such as English or French, do not allow for these subjects to be dropped (e.g., English *I have sung a song*, or French *[J]'ai chanté une chanson*), outside of very specific and rare exceptions (e.g., diary drop, see Haegeman & Ihsane, 2001).

As described in formal linguistics, at least related to the distribution of referential subjects, null-subject and non-null subject grammars can be

[3] We acknowledge that this is an oversimplification. However, and given that the intended audience is not necessarily comprised solely of linguists, we consider that this level of detail suffices, if not is the most appropriate. Of course, there is considerable debate on how null-subject languages satisfy the Extended Projection Principle (EPP), whether via inflectional morphology, a licensing of *pro*, d-linking to information structure or a combination thereof. For a recent review and proposal see Camacho (2014).

viewed as being in a subset-superset relationship (e.g., Borer & Wexler, 1987). As it pertains to referential subjects—subjects with specific semantic content—, this subset-superset relationship makes reference to the fact that all sentences that can be generated following the rules of a non-null subject grammar, the subset, are also grammatical in a null-subject language, the superset. Yet, the superset grammar also generates a semantically equivalent set of sentences that are not grammatical in the non-null subject grammar. In other words, it is a larger grammar for this domain.

To better understand what we mean by this, let us examine a few sentences in Spanish and Italian. These grammars generate both *He cantado una canción/Ho cantato una canzone* ('[I] have sung a song,' with an omitted subject) and ***Yo*** *he cantado una canción/****Io*** *ho cantato una canzone* ('I have sung a song,' with an overt subject). By contrast, English and French equivalents to the first example would be ungrammatical. Subset-superset situations have nontrivial consequences in acquisition. In the present example, one such consequence is the potential difficulty to recover from an erroneous representation on the basis of positive input alone. If a learner initially represents Italian or Spanish as non-null subject languages, this is not, in principle, problematic: it is only a matter of time before she encounters abundant examples of sentences with omitted subjects. Parsing these sentences will force the learner to reconfigure her hypothesis in order to represent Italian or Spanish as a null-subject language. Such evidence is sufficient to result in grammatical reconfiguration since the original representation would be unable to deal with frequent data from the input stream. In fact, it is fairly uncontroversial in formal linguistic approaches to language acquisition, in children and adults alike, to assume that parsing failures of this type are a primary mechanism for grammatical development. Moving from a subset to a superset grammar is, in principle, straightforward for the reasons we have just elucidated. In fact, evidence from L2A studies over the past three decades confirms that, indeed, recovery from L1 transfer is relatively unproblematic in this domain provided the L1 is a subset grammar to the L2 superset (e.g., Al-Kasey & Pérez-Leroux, 1998; Hilles, 1986; Liceras, 1983; Pérez-Leroux & Glass, 1999; Phinney, 1987; Rothman & Iverson, 2007; Rothman, 2009).

When the learner's initial assumption is the superset, however, positive input alone will not provide sufficient clues enabling her to reconfigure the representation. Continuing with our example, if a learner initially represents English or French as null-subject languages, allowing both overt and omitted subjects, no sentences she may encounter will contradict this hypothesis—they will all contain overt subjects, grammatical in null and non-null subject languages alike. In practical terms, this will result in learners having difficulty to stop dropping subjects (i.e., producing sentences like *I bet [ø] plays football every day*) in pragmatic contexts that would allow this in their L1, even if they have never heard or read a sentence without an overt subject. To be fair, however, the learning task is also complicated by some ambiguity in the L2 input. Although it is true that non-

null-subject languages do not have null subjects, it is not the case that apparent examples of phonologically unrealized subjects are not present. For example, a non-native learner of English is sure to hear some instances of diary-drop (e.g., Went to the movies yesterday, and you?) and a non-native of German, also a non-pro-drop language, will likely hear occurrences of topic-dropped subjects (e.g., A: *Kenst du Tanja?* B: *Nein, __ kenne ich nicht* [Do you know Tanja? No, (her) I don't know]). In fact, evidence from L2A also strongly supports this view. Whereas English natives of L2 Spanish have been shown to quickly acquire the null-subject properties of the L2 (see citations in the above paragraph), Spanish natives of L2 English—the superset to subset scenario—are not nearly as successful, even at much higher levels of proficiency (e.g., Judy & Rothman, 2010; Judy, 2011; Phinney, 1987).

In Rothman and Cabrelli Amaro (2010), two of the four English native speaker groups had Italian and French as their target L2. In the other two, these languages were the target L3, with Spanish as a successfully acquired L2. Within the L2 context, and to the extent that previous language transfer is expected, there can be no doubt about the source of the same, and no controversy about its outcome. If English, a non-null subject grammar and the only option available, is transferred, learners will automatically entertain the hypothesis of non-null subjects in French and Italian. This will have a facilitative outcome in the first case, and a non-facilitative one in the second. Results confirmed this prediction, showing similar performance of both groups—in line with the English configuration.

The scenario is different for L3ers, who in principle have two sources available: English (L1) and Spanish (L2). The initial stages models reviewed above make different, straightforward predictions that are testable against each other. The L2SF predicts that both groups of L3ers will transfer Spanish, their null-subject L2. The predicted outcomes, then, are similar to the case of L2ers: one group, the students of Italian, will entertain a hypothesis that matches the target L3; the other group, the students of French, will mistakenly treat this as a null-subject language. The TPM would expect the same language to be transferred, albeit for different reasons. Spanish is the most structurally similar language to both French and Italian, which would lead to its selection as a transfer source, with the same outcomes. Finally, the CEM predicts that the most facilitative language will act as a source of transfer for each group. This would entail transfer from L1 English for the students of French, since both are non-null subject languages, and L2 Spanish for the students of Italian, matching the null-subject property. Since Spanish was transferred for both L3 groups in Cabrelli Amaro & Rothman (2010), meaning that the L3 groups performed differently from the L2 groups despite all sharing English as a native language, the results run in disaccord with the predictions of the CEM. Since, in the context of this early study, the predictions of the TPM and the L2SF cannot be teased apart due to a methodological confound, it is fair to say that both are equally supported.

This discussion lays the ground for two central claims in this chapter.

The first is that no assumptions can be made about a classroom context based solely on the fact that the native and target languages are the same. For example, the L2 and L3 learners of Italian in Rothman and Cabrelli Amaro (2010) were all native speakers of English acquiring the same target language, but their performance was highly divergent. This variability, however, is not random, but rather conditioned by factors that are specific to each learner, such as their previous linguistic knowledge. The second claim is that, based on these factors, initial stages models can determine what language will constitute the source of transfer. With this knowledge, learner performance can be predicted a priori, providing a theoretical tool to anticipate which areas or domains of grammar will be most problematic for each learner. This can be illustrated with the example of learners transferring Spanish at the initial stages of French (and thus representing French as a null-subject language).

Having anticipated the above situation, the instructor will be aware that these learners will need reinforcement to realize that subjects cannot be dropped in French. In other words, interventions to force specific parsing failures that would otherwise not be needed were it not for the interceding L2 can be purposefully embedded into a bespoke pedagogy for these learners. Let us recall that in the case one is moving from a superset to a subset, parsing failures are unlikely to obtain on the basis of positive input alone. However, they can be coerced pedagogically, as is done in VanPatten's Processing Instruction (see VanPatten, 2005, 2015, for review). Under this framework, the classroom input and activities are designed, based on insights from linguistic theory and acquisition data, specifically to induce meaningful parsing failures—that is, constructed so that evidence of ungrammaticality is made salient to the internal mechanisms of the mind that parse and process input, where these internal mechanisms (i.e., the parser) would otherwise not detect such ungrammaticality quickly, if at all.

Of course, for a Processing Instruction type of intervention to work, the construction of the input has to be predicated on reasonable expectations on two fronts: (i) what, if any, are the default ways in which non-native speakers are likely to process a new language, and (ii) what is the source, if any, of transfer that underlies how the new target input will be processed and represented grammatically. In (ii), we find the locus of connecting the L3 literature on initial stages transfer to useful pedagogical intervention. If these models are on the right track, we will know the answer to (ii) and thus be in a good position to build course materials that will indeed coerce parsing failures that would otherwise not obtain. Importantly, one needs to know that creating such opportunities is not only desirable, but potentially necessary. To the extent it is true that some parsing failures needed for grammatical restructuring in L3A will not happen due to L2 transfer—whether the L2 is the default source (e.g., Bardel & Falk, 2007) or rather selected based on typology/structural similarity (e.g., Rothman, 2015)—but would otherwise not be an issue if the L1 were transferred, we have uncovered an issue of potentially large scale considering that the foreign language classroom is

often a combination of actual L2 and L3 learners, even in an ideal situation where the L1 is held constant. Under such a scenario, the advantage of being able to predict developmental trajectories and how they might differ between true L2 and L3/Ln learners could obtain.

Moving from knowledge to practice

Having highlighted some benefits of being able to predict the initial grammatical representations of the first stages of L3 interlanguage grammars, the obvious question for the purposes of this chapter is how to capitalize on this for the classroom. In other words, how would one implement this knowledge into a, for example, Processing Instruction intervention, particularly to undo non-facilitative transfer and more specifically when such transfer makes it difficult for parsing failures to obtain based on positive evidence from the L3 alone. Continuing with the scenario from Rothman and Cabrelli Amaro (2010), we will attempt to show how this might be done.

Recall that the L3 learners in the study had transferred the Spanish setting of a null-subject grammar into L3 Italian and L3 French. Since Italian is also a null-subject grammar, Spanish transfer was facilitative and no intervention would be needed. For L3 French, as noted, such transfer is non-facilitative and thus essentially makes these learners, for this domain of grammar, akin to native speakers of Spanish, who have shown great difficulty in "unlearning" null-subject properties when acquiring subsequent non-null subject languages. What type of intervention, then, might quicken the process for these learners? Following from the discussion so far, we submit that flooding the input and constructing purposeful activities that induce parsing failures—input and evidence from activities that make null subjects saliently ungrammatical as they process French—should, in time, force grammatical restructuring by which null subjects are abandoned. Explicit instruction is likely not sufficient—if at all helpful (see VanPatten, 2015)—precisely because one desires a change at the level of the implicit grammatical system. Therefore, an intervention that is implicit is much more likely to be successful. This is an inherent claim of Processing Instruction at least with reference to the true tenets of VanPatten's corollary mental theory of Input Processing (see VanPatten, 2005, 2015, for review), and accords nicely with what is assumed by formal acquisition perspectives regarding a lack of interface between explicit (metalinguistic) and implicit (actual linguistic competence) knowledge (but see, e.g., Ullman, 2005).

In light of the above discussion, the question then becomes what type of input from French could be used to implicitly induce parsing failures. Recall that it is hypothesized that null-subject native speakers have greater difficulty acquiring non-null subject L2s relative to the opposite direction, because failure to hear null subjects in the target input—i.e., positive evidence alone—does not suffice to unlearn null subjects, precisely due to the fact that overt subjects are entirely grammatical in null-subject grammars. In other words, simply not hearing null subjects is insufficient. However, it

is not true that all sentences in null-subject grammars have a potential alternation between overt and null subjects. For some, only null subjects are grammatical. Such is the case for so-called expletive contexts, as in the Spanish examples in (1-4) below.

(1) [ø] Es importante saber la verdad.
(null) Is important know$_{INF}$ the truth
It is important to know the truth.

(2) [ø] Hay veinte personas en la fiesta.
(null) are twenty people in the party
There are twenty people in the party.

(3) Juan/Él/ø cree que [ø] es importante saber la verdad.
Juan/He/(null) thinks that (null) is important know$_{INF}$ the truth
Juan/He thinks it is important to know the truth.

(4) Julia/Ella/ø dice que [ø] hay veinte personas en la fiesta.
Julia/She/(null) says that (null) are twenty people in the party
Julia says there are twenty people in the party.

Expletive subjects are those that have no semantic referential antecedent, for example in (1) and (2), the English equivalents to these obligatorily empty positions in Spanish are the semantically vacuous "it" and "there" pronouns: they refer to nothing in the real world, but rather serve as syntactically required placeholders because English syntax does not allow for empty or null subjects. As can be seen by comparing (1) and (2) with (3) and (4), expletives are always null, whether in main or embedded clauses, and only referential subjects as in the main clauses of (3) and (4) have an overt/null alternation.

In light of this, we propose that an implicit intervention that makes salient the fact that French expletive subjects are never null, as in (5) and (6) below, will—with enough constructed input—force a parsing failure to induce grammatical restructuring away from the transferred Spanish value, with secondary effects for all non-null-subject related phenomena (e.g., spilling over into referential subject knowledge).

(5) **Il** est importante savoir la verité.
***It** is important know$_{INF}$ the truth*
It is important to know the truth.
(6) **Il** y a vingt personnes ici.
***There** are twenty people here*
There are twenty people here.

Since we are definitively not language teachers, the exact nature of activities and the shape of the input itself is well beyond the scope of our expertise.

What is important, however, and how as linguists we can contribute to this endeavour, is by highlighting the underlying principles of why and how making a customised intervention for L3 learners is needed. This also underscores the mutually beneficial relationship that linguists and language teachers should foster. Insights from the work of the former can be implemented into the creation of the pedagogy of the latter for increased success. Equally, classrooms are one epicentre of modern-day multilingual acquisition, and understanding the variables beyond cognitive and linguistic ones is necessary as this nascent field moves from describing the initial stages of L3/Ln acquisition to its development and ultimate attainment over time. As this trend of research increases over the next decade or so, relationships with teachers who understand the reasons for which L2 and L3 acquisition have some uniqueness to them will prove essential to linguists who study multilingualism.

Conclusions

It is important to highlight a few nontrivial considerations before concluding. Because this paper is a combination of an epistemological discussion and an invitation to build bridges between formal acquisition studies and applied foreign language teaching, we have—for ease of exposition—idealized multilingual acquisition as being less dynamic than it is likely to be. Because the field of L3 morphosyntax is still young, little is actually known about how development and ultimate attainment play out specifically in L3 contexts. To date, most of the research has centred around what the starting point of L3A is likely to be, which we hope to have shown embodies a promising bridge for L3 classroom practice. The dearth of research on L3 development and ultimate attainment is perhaps justified by the need to understand the starting point of the process prior to modelling its trajectory (see González Alonso & Rothman, 2016). Notwithstanding, it is not at all yet clear what other variables play a central role in L3 development beyond the linguistic factors related to initial transfer and the subsequent learnability constraints it imposes that we have focused on herein. It is likely that processing costs and complexities, differences in metalinguistic awareness[4], construction frequencies, misleading input and other factors that distinguish bilingual from multilingual acquisition will play roles of increased importance specifically in multilingual development (see

[4] We assume the more standard position taken by generative acquisitionists (but see Slabakova, 2015, a.o.) that metalinguistic knowledge does not affect linguistic representations, that is, does not form part of or exercise influence on representations within the competence grammar. Rather, we assume that a separate system of metalinguistic knowledge potentially exists in tandem (e.g., Rothman, 2008; Long and Rothman, 2013). Under such a scenario, metalinguistic experience likely plays a role at various levels of performance in non-native speakers in general, and potentially in L3 acquisition helps the learner to streamline the intaking of input, which, when parsed, will affect interlanguage development. However, the claim would be that this effect is indirect at best.

Slabakova, 2016b). Understanding what impacts development in L3 more broadly and at later stages of the multilingual process is of course needed to construct the best pedagogies for the specific needs of unique groups of L3 learners. Given our understanding, none of the initial stages models preclude multiple stages of influence from the other language; several merely state that the first interlanguage grammar of the L3 will show influence from one or the other language. If L3 learners continue to have access to the other grammar, that is the one not transferred from in the first instance, then this might advantage them in transitioning from interlanguage stages as compared to true L2 learners.

Using our example from Rothman and Cabrelli Amaro (2010), we of course expect that L1 English learners of L2 Spanish learning L3 French will start with a null-subject grammar for French. But it might very well be the case that they transition back into a non-null subject grammar with much less effort and much more quickly than what has been shown for L1 speakers of Spanish (e.g., Judy & Rothman, 2010; Phinney, 1987), precisely because they have experience with a grammar that instantiates the French value. Recent research by Cabrelli Amaro (2015) seems to indicate that this might be possible, at least when typology is relevant. In a cross-sectional study with two groups of L3 learners of Brazilian Portuguese (BP), one comprised of native Spanish learners of L2 English and one of native English learners of L2 Spanish, she shows that the early learners all transfer Spanish, whether it was the L1 or the L2. The property she was examining, Subject-to-Subject raising over a dative experiencer, happens to be equivalent in English and BP (both allowing for this construction), whereas in Spanish the construction is patently ungrammatical, as seen in examples (7-9) below.

(7) John seems to me to love Mary.

(8) O João me parece amar Maria.
João to-me seems to-love Maria.

(9) *Juan me parece amar a María.
Juan to-me seems to-love OBJ María.

Cabrelli Amaro shows that, at later stages in L3 development, whether or not Spanish was the participants' L2 mattered considerably for the timing of recovery from initial transfer. By the advanced level of BP proficiency, both groups of learners showed some knowledge that BP, unlike Spanish and similarly to English, allows for Subject-to-Subject raising over a dative experiencer (8), although the L1 English group did so (i) more quickly over time—already show evidence at the intermediate level—and (ii) more completely—no differences from BP controls at the advanced stage.

The take-home message from bringing to light the above examples is to acknowledge that we are still in the early stages of understanding the complexities of L3A. However, we feel confident in our current state of

knowledge related to how transfer is selected at the beginning stages of L3A. From that point of departure, it is useful to make careful links with classroom practice that stem specifically from what we know for sure. If the ideas discussed in this chapter are on the right track, then we should be able to detect those areas of the target grammar that will prove, at least initially, more difficult to acquire, for reasons of L3 specific developmental learnability, for any given language triad. At a minimum the whole discussion here reminds us that in the foreign language classroom, even when the L1 is shared by all or virtually all, it matters significantly what other linguistic experience/knowledge individuals have. Failing to take this into consideration can leave learners and teachers frustrated, assuming that a select few have individual problems, when in reality these problems are predicted via their language histories, that is, obtain because they are L3/Ln learners. By extension, some things that might appear like individual differences under the assumption (conscious or unconscious) in a classroom that 'since everyone is a native speaker of X, we will treat them all the same for learning foreign language Y,' might in fact not be individual differences at all. Knowing language A, B, C as either a native bilingual or a previous non-native L2 learner before attempting language Y clearly matters. The good news is, if we—i.e., the TPM, L2SF or any of the models—are on the right track, then this is not at all surprising, but indeed predicted.

References

Al-Kasey, T., & Pérez-Leroux, A. T. (1998). Second language acquisition of Spanish null subjects. In S. Flynn, G. Martohardjono, & W. O'Neil (Eds.), *The generative study of second language acquisition*. Hillsdale, NJ: Lawrence Erlbaum.

Bardel, C., & Falk, Y. (2007). The role of the second language in third language acquisition: the case of Germanic syntax. *Second Language Research*, *23*(4), 459–484. http://doi.org/10.1177/0267658307080557

Bardel, C., & Falk, Y. (2012). Behind the L2 Status Factor: A neurolinguistic framework for L3 research. In J. Cabrelli Amaro, S. Flynn, & J. Rothman (Eds.), *Third Language Acquisition in Adulthood* (pp. 61–78). Amsterdam: John Benjamins.

Bardel, C., & Sánchez, L. (2017, this volume). The L2 status factor hypothesis revisited: The role of metalinguistic knowledge, working memory, attention and noticing in third language learning. In T. Angelovska & A. Hahn (Eds.), *L3 Syntactic Transfer: Models, new developments and implications* (pp. 85-101). Amsterdam: John Benjamins.

Berkes, É., & Flynn, S. (2012). Further evidence in support of the Cumulative-Enhancement Model. In J. Cabrelli Amaro, S. Flynn, & J. Rothman (Eds.), *Third Language Acquisition in Adulthood* (pp. 143–164). Amsterdam: John Benjamins.

Borer, H., & Wexler, K. (1987). The maturation of syntax. In T. Roeper & E. Williams (Eds.), *Parameter setting* (pp. 123–172). Dordrecht: Reidel.

Bruhn de Garavito, J. (2013). Why theory and research are important for the practice of teaching. In J. W. Schwieter (Ed.), *Innovative research and practices in second language acquisition and bilingualism* (pp. 85–106). Amsterdam: John Benjamins.

Cabrelli Amaro, J. (2015). Does the source of transfer affect the rate of L3 morphosyntactic development? In *40th Boston University Conference in Language Development*. Boston, MA.

Camacho, J. (2014). *Null Subjects*. Cambridge: Cambridge University Press.

de Bot, K., & Jaensch, C. (2015). What is special about L3 processing? *Bilingualism: Language and Cognition*, *18*(2), 130–144. http://doi.org/10.1017/S1366728913000448

De Angelis, G. (2007). *Third or additional language acquisition*. Clevedon: Multilingual Matters.

De Angelis, G., & Dewaele, J.-M. (2011). *New Trends in Crosslinguistic Influence and Multilingualism Research*. (G. De Angelis & J.-M. Dewaele, Eds.). Bristol: Multilingual Matters.

Eisenstein, M. (1980). Childhood bilingualism and adult language learning aptitude. *Applied Psychology*, *29*(1–2), 159–172.

Epstein, S., Flynn, S., & Martohardjono, G. (1996). Second language acquisition: Theoretical and experimental issues in contemporary research. *Behavioral and Brain Sciences*, *19*, 677–714.

Falk, Y., & Bardel, C. (2010). The study of the role of the background languages in third language acquisition. The state of the art.

International Review of Applied Linguistics in Language Teaching (IRAL), *48*(2–3), 185–220.

Falk, Y., & Bardel, C. (2011). Object pronouns in German L3 syntax: Evidence for the L2 status factor. *Second Language Research*, *27*(1), 59–82. http://doi.org/10.1177/0267658310386647

Falk, Y., Lindqvist, C., & Bardel, C. (2015). The role of L1 explicit metalinguistic knowledge in L3 oral production at the initial state. *Bilingualism: Language and Cognition*, *18*(2), 227–235. http://doi.org/10.1017/S1366728913000552

Flynn, S., Foley, C., & Vinnitskaya, I. (2004). The cumulative-enhancement model for language acquisition: Comparing adults' and children's patterns of development in first, second and third language acquisition. *International Journal of Multilingualism*, *1*(1), 3–16. Retrieved from http://www.tandfonline.com/doi/abs/10.1080/14790710408668175

Foote, R. (2009). Transfer and L3 acquisition: the role of typology. In Y. I. Leung (Ed.), *Third Language Acquisition and Universal Grammar* (pp. 89–114). Clevedon: Multilingual Matters.

García Mayo, M. P., & Rothman, J. (2012). L3 morphosyntax in the generative tradition: From the initial state and beyond. In J. Cabrelli Amaro, S. Flynn, & J. Rothman (Eds.), *Third Language Acquisition in Adulthood* (pp. 9–32). Amsterdam: John Benjamins. http://doi.org/10.1075/sibil.46.04pil

Giancaspro, D., Halloran, B., & Iverson, M. (2015). Transfer at the initial stages of L3 Brazilian Portuguese: A look at three groups of English/Spanish bilinguals. *Bilingualism: Language and Cognition*, *18*(2), 191–207. http://doi.org/10.1017/S1366728914000339

González Alonso, J., & Rothman, J. (2016). Coming of age in L3 initial stages transfer models: Deriving developmental predictions and looking towards the future. *International Journal of Bilingualism*. Epub ahead of print, May 23, 2016. DOI: 10.1177/1367006916649265

Haegeman, L., & Ihsane, T. (2001). Adult Null Subjects in the non-pro-drop Languages: Two Diary Dialects. *Language Acquisition*, *9*(4), 329–346.

Hermas, A. (2010). Language acquisition as computational resetting: verb movement in L3 initial state. *International Journal of Multilingualism*, *7*(4), 343–362. http://doi.org/10.1080/14790718.2010.487941

Hilles, S. (1986). Interlanguage and the pro-drop parameter. *Second Language Research*, *2*, 33–52.

Iverson, M. (2010). Informing the age of acquisition debate: L3 as a litmus test. *International Review of Applied Linguistics in Language Teaching (IRAL)*, *48*(2–3), 221–243.

Judy, T. (2011). L1/L2 parametric directionality matters: More on the null subject parameter in L2 acquisition. *EUROSLA Yearbook*, *11*(1), 165–190.

Judy, T., & Rothman, J. (2010). From a Superset to a Subset Grammar and the Semantic Compensation Hypothesis: Subject Pronoun and Anaphora Resolution Evidence in L2 English. In K. Franich, K. M. Iserman, & L. L. Keil (Eds.), *BUCLD 34: Proceedings of the 34th*

annual Boston University Conference on Language Development (pp. 197–208). Sommerville, MA: Cascadilla Press.

Klein, W., & Perdue, C. (1997). The Basic Variety (or: Couldn't natural languages be much simpler?). *Second Language Research*, *13*(4), 301–347. http://doi.org/10.1191/026765897666879396

Krashen, S. D. (1982). *Principles and Practice in Second Language Acquisition*. Oxford: Pergamon Press.

Leung, Y. I. (2001). The initial state of L3A: Full transfer and failed features? In C. Higgins & H. Nguyen (Eds.), *The Past, Present and Future of Second Language Research: Selected Proceedings of the 2000 Second Language Research Forum* (pp. 55–75). Sommerville, MA: Cascadilla Press.

Liceras, J. M. (1983). *Markedness, contrastive analysis and the acquisition of Spanish syntax by English speakers*. University of Toronto.

Long, D., & Rothman, J. (2013). Generative approaches and the competing systems hypothesis: Formal acquisition to pedagogical application. In J. W. Schwieter (Ed.), *Innovative research and practices in second language acquisition and bilingualism* (pp. 63–84). Amsterdam: John Benjamins.

Lozano, C. (2002). The interpretation of overt and null pronouns in non-native Spanish. In H. Marsden, S. Pourcel, & M. Whong-Bharr (Eds.), *Durham Working Papers in Linguistics 8* (pp. 53–66). Sommerville, MA: Cascadilla Press.

Montrul, S., Dias, R., & Santos, H. (2011). Clitics and object expression in the L3 acquisition of Brazilian Portuguese: Structural similarity matters for transfer. *Second Language Research*, *27*, 21–58. http://doi.org/10.1177/0267658310386649

Na Ranong, S., & Leung, Y. I. (2009). Null objects in L1 Thai-L2 English-L3 Chinese: An empiricist take on a theoretical problem. In Y. I. Leung (Ed.), *Third language acquisition and Universal Grammar* (pp. 162–91). Clevedon: Multilingual Matters.

Pérez-Leroux, A. T., & Glass, W. R. (1999). Null anaphora in Spanish second language acquisition: probabilistic versus generative approaches . *Second Language Research*, *15*, 220–249.

Phinney, M. (1987). The Pro-Drop Parameter in Second Language Acquisition. In T. Roeper & E. Williams (Eds.), *Parameter setting* (pp. 221–238). Reidel.

Platzack, C. (1996). The initial hypothesis of syntax: A minimalist perspective on language acquisition and attrition. In H. Clahsen (Ed.), *Generative perspectives on language acquisition* (pp. 369–414). Amsterdam: John Benjamins.

Rothman, J. (2009). Pragmatic deficits with syntactic consequences? L2 pronominal subjects and the syntax-pragmatics interface. *Journal of Pragmatics*, *41*(5), 951–973. http://doi.org/10.1016/j.pragma.2008.07.007

Rothman, J. (2010). On the typological economy of syntactic transfer: Word order and relative clause high/low attachment preference in L3

Brazilian Portuguese. *International Review of Applied Linguistics in Language Teaching (IRAL)*, *48*, 245–273.

Rothman, J. (2011). L3 syntactic transfer selectivity and typological determinacy: The Typological Primacy Model. *Second Language Research*, *27*, 107–127.

Rothman, J. (2013). Cognitive economy, non-redundancy and typological primacy in L3 acquisition: Evidence from initial stages of L3 Romance. In S. Baauw, F. Dirjkoningen, & M. Pinto (Eds.), *Romance Languages and Linguistic Theory 2011* (pp. 217–247). Amsterdam: John Benjamins.

Rothman, J. (2015). Linguistic and cognitive motivations for the Typological Primacy Model (TPM) of third language (L3) transfer: Timing of acquisition and proficiency considered. *Bilingualism: Language and Cognition*, *18*(2), 179–190. http://doi.org/10.1017/S136672891300059X

Rothman, J., & Cabrelli Amaro, J. (2010). What Variables Condition Syntactic Transfer? A Look at the L3 Initial State. *Second Language Research*, *26*, 189–218.

Rothman, J., Cabrelli Amaro, J., & de Bot, K. (2013). Third Language Acquisition. In J. Herschensohn & M. Young-Scholten (Eds.), *The Cambridge Handbook of Second Language Acquisition* (pp. 372–393). Cambridge: Cambridge University Press.

Rothman, J., & Halloran, B. (2013). Formal Linguistic Approaches to L3/Ln Acquisition: A Focus on Morphosyntactic Transfer in Adult Multilingualism. *Annual Review of Applied Linguistics*, *33*, 51–67.

Rothman, J., & Iverson, M. (2007). On parameter clustering and resetting the null-subject parameter in L2 Spanish: Implications and observations. *Hispania*, *90*, 328–341.

Rothman, J., Iverson, M., & Judy, T. (2011). Some notes on the generative study of L3 acquisition. *Second Language Research*, *27*(1), 5–19.

Rothman, J., Alemán Bañón, J., & González Alonso, J. (2015). Neurolinguistic measures of typological effects in multilingual transfer: Introducing an ERP methodology. *Frontiers in Psychology*, *6*(1087), 1–14. http://doi.org/10.3389/fpsyg.2015.01087

Schwartz, B. D. (1996). Now for some facts, with a focus on development and an explicit role for the L1. *Behavioral and Brain Sciences*, *19*(4), 739–740.

Schwartz, B. D., & Sprouse, R. A. (1996). L2 cognitive states and the Full Transfer/Full Access model. *Second Language Research*, *12*, 40–72.

Singleton, D. (1987). Mother and other tongue influence on learner French. *Studies in Second Language Acquisition*, *9*, 327–346.

Slabakova, R. (2015). Is there a firewall between declarative knowledge and procedural knowledge of the functional morphology? A response to Paradis. *Foreign Language Teaching and Research*, *47*, 1–5.

Slabakova, R. (2016a). *Second Language Acquisition*. Oxford: Oxford University Press.

Slabakova, R. (2016b). The scalpel model of third language acquisition.

International Journal of Bilingualism. Epub ahead of print, June 30, 2016. DOI: 10.1177/1367006916655413.

Ullman, M. T. (2005). A cognitive neuroscience perspective on second language acquisition: The declarative/procedural model. In C. Sanz (Ed.), *Mind and Context in Adult Second Language Acquisition: Methods, Theory and Practice* (pp. 141–178). Washington, DC: Georgetown University Press.

VanPatten, B. (2005). Processing Instruction. In C. Sanz (Ed.), *Mind and context in adult second language acquisition: Methods, Theory, and Practice* (pp. 267–281). Washington, DC: Georgetown University Press.

VanPatten, B. (2010). Some Verbs Are More Perfect than Others: Why Learners Have Difficulty with ser and estar and What It Means for Instruction. *Hispania*, *93*(1), 29–38.

VanPatten, B. (2015). Foundations of processing instruction. *International Review of Applied Linguistics in Language Teaching*, *53*(2), 91–109. http://doi.org/10.1515/iral-2015-0005

Westergaard, M., Mitrofanova, N., Mykhaylyk, R., & Rodina, Y. (2016). Crosslinguistic influence in the acquisition of a third language: The Linguistic Proximity Model. *International Journal of Bilingualism*. Epub ahead of print, May 19, 2016. DOI: 10.1177/1367006916648859

Whong, M., Gil, K.-H., & Marsden, H. (Eds.). (2013). *Universal Grammar and the Second Language Classroom*. Dordrecht: Springer.

Whong, M., Gil, K.-H., & Marsden, H. (2014). Beyond paradigm: The "what" and the "how" of classroom research. *Second Language Research*, *30*(4), 551–568. http://doi.org/10.1177/0267658314526749

Williams, S., & Hammarberg, B. (1998). Language switches in L3 production: Implications for a polyglot speaking model. *Applied Linguistics*, *19*(3), 295–333. http://doi.org/10.1093/applin/19.3.295